



M6

Plate heat exchanger

Applications

General heating and cooling duties. Heating by means of steam.

Standard design

The plate heat exchanger consists of a pack of corrugated metal plates with portholes for the passage of the two fluids between which heat transfer will take place.

The plate pack is assembled between a fix frame plate and a movable pressure plate and compressed by tightening bolts. The plates are fitted with a gasket which seals the interplate channel and directs the fluids into alternate channels. The number of plates is determined by the flow rate, physical properties of the fluids, pressure drop and temperature program. The plate corrugations promote fluid turbulence and support the plates against differential pressure.

The plate and the pressure plate are suspended from an upper carrying bar and located by a lower guiding bar, both of which are fixed to a support column.

Connections are located in the frame plate or, if either or both fluids make more than a single pass within the unit, in the frame and pressure plates.

Typical capacities

Liquid flow rate

Up to 16 kg/s, depending on media, permitted pressure drop and temperature program.

Water heating by steam

300 to 800 kW

Plate types

M6 and M6M

Frame types

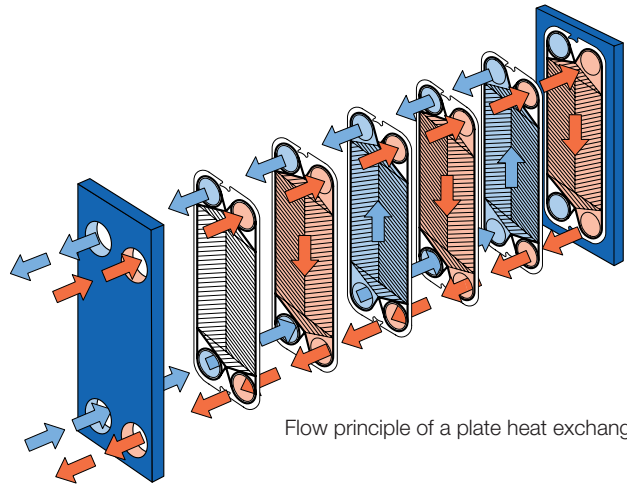
FM, FG, FD, FML and FGL



M6-FG

Working principle

Channels are formed between the plates and the corner ports are arranged so that the two media flow through alternate channels. The heat is transferred through the plate between the channels, and complete counter-current flow is created for highest possible efficiency. The corrugation of the plates provides the passage between the plates, supports each plate against the adjacent one and enhances the turbulence, resulting in efficient heat transfer.



Flow principle of a plate heat exchanger

Standard materials

Frame plate

Mild steel, Epoxy painted

Nozzles

Flange:

Carbon steel

Lined; Stainless steel, Rubber, Titanium

Pipe:

Stainless steel, Carbon steel

Plates

Stainless steel AISI 316

Titanium (M6M only)

Gaskets

M6 Nitrile, EPDM, HeatSeal F™

M6M Nitrile, EPDM, HeatSeal F™, HNBR, Viton®G

Connections

Pipe connections:

Straight threaded ISO-G2 (not for frame type -FD)

Straight welded (not for frame type -FD)

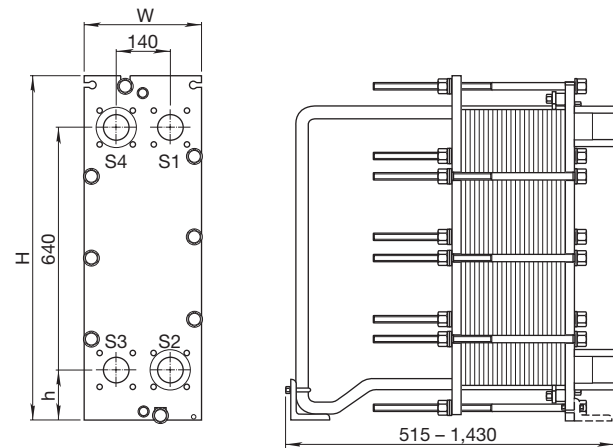
With flanges:

FM Size 60 mm DIN 2501 PN10 or ANSI 150

FG Size 60 mm DIN 2501 PN16 or ANSI 150

FD Size 60 mm DIN 2501 PN25 or ANSI 150/ANSI 300

Dimensions



Measurements (mm)

Type	H	W	h
M6-FML/FGL	920	320	140
M6-FM	920	320	140
M6-FG	920	320	140
M6-FD	940	330	150

The number of tightening bolts may vary depending on pressure rating.

Technical data

Mechanical design pressure (g) / temperature

FM 1.0 MPa / 160°C

FG 1.6 MPa / 180°C *)

FD 2.5 MPa / 160°C

FS ASME 300 psig / 320°F

*) Frame FG also approved for 1.2 MPa / 200°C to allow use in steam systems without safety valves.

Maximum heat transfer surface

38 m² (410 sq. ft)

Particulars required for quotation

- Flow rates or heat load
- Temperature program
- Physical properties of liquids in question (if not water)
- Desired working pressure
- Maximum permitted pressure drop
- Available steam pressure

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information directly.